

52. (New) The transfer module described in claim 51 wherein

the respective communication ports of the pair of secondary passages are spaced-apart from one another, and said aliquot channel is dimensioned and oriented such that, in said second position, the first and second end portions of the aliquot channel are in fluid communication with a respective communication port of the pair of secondary passages.

53. (New) The transfer module described in claim 40 wherein

said communication ports of said pair of secondary passages are spaced-apart from, and independent of, one another, and

said aliquot channel extends through said rotor device having the first end portion thereof spaced-apart from, and independent of, the second end portion thereof, such that, in said first position, said first end portion and said second end portion of the channel are both aligned with the respective communication openings of the pair of primary passages, and in said second position, said first end portion and said second end portion of the channel are both aligned with the respective communication port of the pair of secondary passages.

REMARKS

The Applicants respectfully request reconsideration of the objections and rejections set forth in the Final Office Action dated September 9, 2003.

The Objection to the Drawings:

The Applicants' new counsel is currently having the formal drawings prepared, and will forward them immediately upon completion.

Regarding the reference numeral "120x", the Applicant's new counsel is unsure about the Examiner's objection since, according to the Applicants' filed Application that was

provided to new counsel, FIGURE 2 clearly illustrates the reference numeral “120x”. The Applicants have forwarded a copy of this drawing with the reference numeral “120x” shown circled in red.

Regarding FIGURES 6 and 8, the Applicants noted some reference numeral errors, and have made the appropriate corrections as indicated in the drawings, and in the Specification.

The Rejection under 35 U.S.C §112:

Claims 1, 3-7, 9, 13, 14, 18 and 19 stand rejected over 35 USC §112, first and second paragraphs, for the reasons set forth in the Office Action. These claims have been canceled, and new claims 23-53 have been inserted which the Applicants believe remove the §112 rejections cited by the Examiner. Withdrawal of the §112 rejections are respectfully requested.

The Rejection under 35 U.S.C §103(a):

The Examiner has rejected claims 1, 3-7, 9, 13, 14, 18 and 19 under 35 USC §103(a) as being unpatentable generally over Yoshida et al. and Laursen, and further in view of Stone, Proni et al., Baldwin, Sanuki, Jungner, Wylie et al. and Bakalyar. In view of new claims 23-53 and the forgoing remarks, the Applicants respectfully disagree.

New claims 23-53 are directed toward the subject matter and embodiment of FIGURES 6-13. Briefly, as indicated in new claim 23, for example, a fluid transfer module is provided for transferring a sample slug of dissolved analytes from of a high flow rate primary stream of dissolved analytes to a secondary stream leading to an analyzer for analysis of the analyte. The transfer module includes a stator device having a first stator face. The stator device defines a primary passage extending along a primary path therethrough from an inlet end portion to an opposite outlet end portion thereof for passage

of the primary stream of analytes continuously therethrough. The primary path of the primary passage intersects the first stator face at a communication opening of the primary passage for fluid communication with the stator face. The stator device further defines an upstream secondary passage extending along a secondary path through the stator device, and includes a first communication port disposed at the first stator face. A downstream secondary passage is also defined that extends further along the secondary path, and includes a second communication portion disposed at the first stator face that is configured for fluid communication with the analyzer. The transfer module further includes a rotor device having a rotor face in fluid-tight contact against the first stator face at an interface therebetween. The rotor face defines an aliquot channel in fluid communication with the interface. When the rotor face is in a first rotor position, the aliquot channel is aligned in fluid communication with the communication opening of the primary passage to acquire a sample slug of analyte therein. When the rotor face is in a second rotor position, the aliquot channel is aligned with both the first communication port of the upstream secondary passage and second communication port of the downstream secondary passage to enable transfer of substantially all of the sample slug in a uniform flow manner through the downstream secondary stator passage to the analyzer.

Accordingly, the transfer module moves the sample slug, having a discrete volume, from the primary stream to the secondary stream without interrupting the flow of analyte through the primary stream. Thus, regardless which position the rotor face is situated, the flow through the primary passage of the stator device is continuous. This is advantageous in that the need for an additional external bypass, outside of the stator device, is eliminated. This significantly reduces system complexity, as well as increases operational reliability. Moreover, a proper smaller volume of the sample slug can be acquired directly from the primary path without reducing the diameter of the primary passage which in turn would create a large pressure drop across the primary stream.

In contrast, the Examiner has cited Jungner, Wyle et al. and Bakalyar as disclosing a bypass. In view of the new claims, the Applicants respectfully disagree. Regarding Jungner, the Applicants submit that hose connection 6 is merely a fluid connection to blocks 1 and 3 (col. 2, lines 10-11). Moreover, Jungner discloses a automatic filter which is not analogous art, and thus, improperly combined with Laursen and/or Yoshida.

In reference to Wylie, a fluid control valve is disclosed with flexible membrane 26 which flips back and forth (solid line/phantom lines in FIGURES 6 and 7) depending upon the positive/negative pressure applied passages 24, as well as that applied through outlet ports 32 and 34 (see col. 9, lines 1-20). Regardless, Wylie teaches away from the present invention in that the inlet flow through 28 of block 30 is actually split between the two independent inlet passages 22 into two independent chambers 10 (col. 8, lines 39-45). Depending upon the position of the membrane 26, flow between inlets 22 to outlet 34 or 32 is permitted or not permitted. Thus, the fluid flow through any one path is not continuous as suggested in accordance with the present invention. Moreover, Wylie requires the interface between block 30 and the gasket arrangement 36 for fluid flow therethrough. In the present invention, a continuous flow of fluid is maintained through the stator device, regardless of the position of the rotor.

Finally, the Examiner has cited Bakalyar which discloses a multiple piece stator 32, 34. However, the flow path through the stator is not continuous since, depending upon the load cycle (FIGURE 2) or the inject cycle (FIGURE 3), the flow diverges between two independent paths. Moreover, similar to Wylie, Bakalyar relies upon the interface between the stator 32 and the rotor 18 (i.e., channels 50, 52) for fluid flow therethrough.

In view of the foregoing arguments, withdrawal of the §103(a) rejection is respectfully requested.

Conclusion

In light of the above amendments and remarks, the Applicants respectfully request that the Examiner reconsider this application with a view towards allowance. It is believed that all claims now pending and all Previously Presented claims fully and patently define the subject invention over the cited art of record and are in condition for allowance.

If the Examiner has any questions concerning this case, the Examiner is respectfully requested to contact Michael L. Louie at (510) 843-6200.

The Commissioner is hereby authorized to charge any additional fees, including any extension fees, which may be required or credit any overpayment directly to the account of the undersigned, No. 50-0388 (Order No. RDYNP007).

Respectfully submitted,
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